

# MP3 | MP2 Audio Stream CODEC Board over IP

*The easiest and cost effective way to create your audio network. Small and compact, completely autonomous audio encoder/decoder board. Directly pluggable on the IP network. Easy to install and remotely manageable.*

## Product overview

NS1-E is designed for reliably encoding (MP3 only) reproducing and distributing MP2 and MP3 audio over Ethernet using IP protocols. NS1-E is the professional solution for applications requiring audio to be sent cost-effectively and easily over standard IP-Networks covering long distances and/or to multiple locations.

NS1-E supports compressed audio in MP2 (MPEG1 Layer II) only for decoding and MP3 (Layer III) for encoding and decoding formats. NS1-E is ideal for audio transmission, live sound and streaming in standard IP/Ethernet networks.

NS1-E applications can be user designed to control all units linked to external equipment with the factory supplied OEM library (DLL). Fully programmable routing control permits sending audio to any NS1 or multiple groups of NS1's.

## Applications

- √ Over-IP receiver for broadcast internet radio with optional interactivity, opinion polling terminal ...
- √ Information and public address for airports, bus and railway terminals, sports arenas, outdoor theaters, cruise ships, ...
- √ Combined sound distribution system, public address and emergency evacuation control, ...
- √ Zoned sound reinforcement for boardrooms, lecture halls, museums, auditoriums, ...
- √ Global audio distribution via TCP/IP and UDP, multi-channel audio over standard IP Network ...
- √ Central operation in crisis and control centers, tunnel control centers, parking surveillance centers, ...
- √ Background music/paging for theme parks, hotels & convention centers, shops, ...
- √ Advertising networks for shopping malls, supermarkets, fairs, conventions, large factories, ...
- √ Emergency evacuation control for schools and universities, stadiums, hospitals, ...

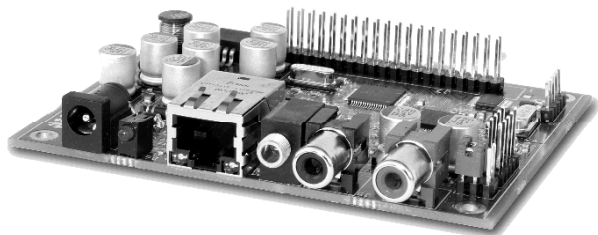
## Selector Guide

| PART          | PACKAGE        | ORDER CODE |
|---------------|----------------|------------|
| NS1-E         | Only board     | NS1-E      |
| NS1-E powered | Board + PSU    | NS1-EPW    |
| NS1-E boxed   | NS1 + box+ PSU | NS1-EB     |

## General Features

- ◆ Distributes audio effectively over existing standard TCP/IP networks
- ◆ Streaming audio in LANs, WANs or Internet
- ◆ MPEG-Layer II (MP2) decoder, III (MP 3) encoder/decoder
- ◆ Unlimited number of NS1-E devices in any system
- ◆ Interface to OEM through DLL
- ◆ Multicast or Unicast configuration
- ◆ GPIO for remote control of peripherals and interactivity

**NS1-E**



## SDK and Application Software

The NS1-SDK has been created to build applications for all the NS1 boards. This development kit includes a DLL, a library and examples to develop the software to control NS1 boards under W2000 and XP. It comes free with the SDK (no royalties). The SDK also includes NScontrol, a simple software to directly manage all the NS1 boards plugged into the network.

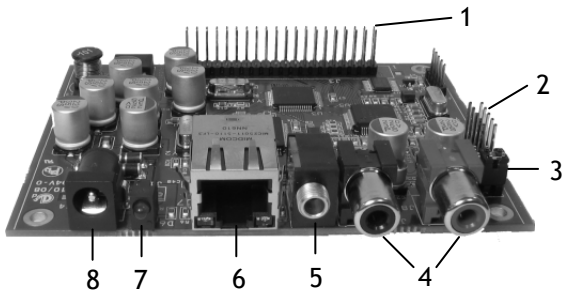
Another simple way to use NS1 decoder boards under W2000 or XP is via the NS1-KIT. This package includes a WinAmp plug-in and a little announcement software called NSTX. While playing background music with WinAmp, announcements can be sent to one ore more NS1 boards with NSTX, temporarily interrupting the background music.

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## TECHNICAL SPECIFICATIONS

**NS1-E**

|           | PARAMETERS             | DESCRIPTION  |
|-----------|------------------------|--|
| Audio     | Format                 | (TX) MPEG1/2-Layer III(RX) MPEG1/2/2.5-Layer II and III for UDP (raw)                                  |
|           | Bit Rate Encoding      | VBR from 32 to 192 Kb/sec (MPEG1-L3), from 8 to 160 Kb/sec (MPEG2-L3)                                  |
|           | Sampling Frequency     | 16/22,05/24/ 32/44,1/48 KHz  |
|           | Mode                   | stereo, joint stereo, dual channel, single channel   |
|           | Analog Input           | 1 line stereo unbal. header (2,54 mm) and RCA, 1 micro mono header (2,54 mm)                           |
|           | Max. Input Level       | +3dBu line / -18dBu micro  |
|           | Analog Output          | 1 headphone stereo female jack (3,5 mm) /1 line stereo out header (2,54 mm) and RCA                    |
|           | Max. Line Output Level | +3dBu line   |
|           | Digital Input          | 1 SPDIF in header (2,54 mm)  |
|           | Digital Output         | 1 SPDIF out header (2,54 mm)   |
|           | Frequency Response     | 20 - 20.000 Hz (+/- 3 dB)  |
|           | SNR                    | > 94 dB (20 - 20.000 Hz)   |
|           | Crosstalk              | >80 dB   |
|           | THD                    | 0,003%   |
| Network   | Interface              | RJ45 female connector full duplex IEEE 802.3 10/100Mb/s  |
|           | Protocols              | UDP (raw) encoding/decoding, HTTP (TCP) only decoding  |
| Remote    |                        | via internet, local ethernet network by NScontrol or API   |
| Misc      |                        | 40 pin expansion connector for optional LCD, IR RX/TX, GPIO, memory add-on, keypad or external devices |
| Power     |                        | 5/24V DC or AC 90 mA (6 mm coaxial connector)  |
| Dimension |                        | 110 x 80 x 30 cm   |



### NS1-E Connectors

|                           |                         |
|---------------------------|-------------------------|
| 1. Expansion Port         | 5. Headphone Out        |
| 2. Audio Expansion Port   | 6. 10/100 Ethernet Port |
| 3. In/Out Jumper Selector | 7. Power Led            |
| 4. Line In/Out            | 8. Power Supply         |

### Memory & Interface NS1-P

With this piggyboard you add 128 kbytes (1 Mbit) of RAM to the NS1 board. This expansion is necessary when you have to receive audio from the Internet via HTTP. This board includes an 8 bit output and an 8 bit input for driving external devices like alphanumeric displays, keyboards, etc.



### NS1 Boxed Version

The NS1, NS1-P and NS1-R are also available on the rugged metal box (13x15x4,3). Equipped with LCD display and four keys to interactive use or in a simple black box for basic installation. Easy for wall or rack mounting.



**AudioShipper**

For pricing, delivery and ordering information, please contact AudioShipper directly at [info@audioshipper.com](mailto:info@audioshipper.com) or visit AudioShipper's website at [www.audioshipper.com](http://www.audioshipper.com).